METEOSAT - MVIRI - Mesoscale Convective Systems Tracking (ISIS) - 0.05

General information

Dataset name:	METEOSAT - MVIRI - Mesoscale Convective Systems Tracking (ISIS) - 0.05
Created on:	2016-03-14
Useful in the framework of:	OPERATIONAL-DATA > Satellite products
Purpose:	In 1999, Meteo-France has taken in charge the development of the Rapid Developing Thunderstorm (RDT) product of EUMETSAT Nowcasting SAF (Satellite Application Facilities); see http://www.eumetsat.de/ for details. The corresponding software ISIS allows to detect, track and document convective systems from a sequence of infrared images as input. The characteristics of systems computed with ISIS are morphological (ellipticity, area...), radiative (average temperature, temperature gradients...), and dynamic (duration, cooling rate, area expansion rate...). The main advantage of ISIS is the use, for each system, of an adaptative temperature threshold, warm at the early stages of convective systems and colder and colder during the system development; this way improves the tracking especially at the beginning of the system live. ISIS is used here to provide information about convective systems, represented as "objects" with their most relevant properties (size, movement, minimum temperature, area extension rate...), superposed on an infrared METEOSAT image. Thresholds used here for ISIS are the following: - each infrared image is thresheld at several temperature values, each 5°C between -10°C and -65°C, in order to provide for each system the more appropriate temperature at this stage of its development. - cells are kept for the tracking only if their area is greater than 5000 km2 at the warmer threshold. More information on ISIS can be found in the following papers: Morel C. and Senesi S., A climatology of mesoscale convective systems over europe using satellite infrared imagery. I: Methodology, Q. J. R. M. Soc., 128, pp 1953-1992, 2002. Morel C. and Senesi S., A climatology of mesoscale convective systems over europe using satellite infrared imagery.II: Characteristics of European mesoscale convective systems, Q. J. R. M. Soc., 128, pp 1973-1996, 2002.

Contact(s)

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Instrument

Satellite:	METEOSAT
Instrument:	MVIRI

Parameter

Mesoscale Convective Systems Tracking

Parameter name:	Mesoscale Convective Systems Tracking
Parameter keyword:	Atmosphere > Clouds

Coverage

Temporal coverage

Date begin (yyyy-mm-jj):	1999-06-01
Date end (yyyy-mm-jj):	2004-09-30

Geographic coverage

Data resolution

Temporal resolution:	0000-00-00 00:30:00
Latitude resolution:	0.05
Longitude resolution:	0.05

Data use information

Use constraints:	Public data
Data policy:	AMMA data policy